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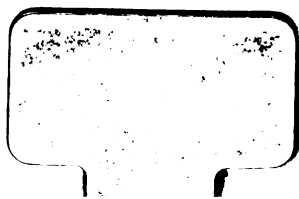
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HAND-BOOK

FOR

PILOTS AND COASTERS,

NAVIGATING

TO AND FROM

THE RIVER THAMES,

THROUGH ALL THE CHANNELS,

TO DUNGENESS AND ORFORDNESS.

BY

LIEUT. E. BURSTAL, R.N.,

FROM THE SURVEY OF

CAPTAIN BULLOCK, R.N.

PRINTED FOR THE

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1851.



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(1.) FROM DUNGENESS TO THE NORTH FORELAND.

| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|---|---|-------------------------------|-----------------|--|
| Dungeness . . . | So. Foreland . . . | E. N. E. $\frac{1}{2}$ E. . . | 20 | S. Foreland Lights N.E. $\frac{1}{2}$ N., clear Ridge and Varne |
| S. Foreland . . . | Downs | N.E. $\frac{1}{2}$ N. | 6 | |
| Downs | Through Gull Stream W. of Gull Light | N.E. | 7 | At Gull  Ramsgate West Lights, W.N.W. |
| Gull  | Elbow  | N.N.E. | 2 $\frac{1}{2}$ | At Elbow  N. Foreland Light bears N.W. $\frac{1}{2}$ W. |
| Elbow  | E.  Margate Sand | N. by W. $\frac{1}{2}$ W. . . | 6 | Allow for beam tide |

(2.) FROM E. BUOY OF MARGATE SAND UP QUEENS CHANNEL.







| | | | | |
|---|---|---------------------------------|-----------------|--|
| E.  Margate Sand | N.E. Spit  | N. $\frac{1}{2}$ W. | 1 $\frac{1}{2}$ | Allow for flood tide a-beam |
| N.E. Spit  | North Spit  | W.N.W. | 2 $\frac{1}{2}$ | Passing 1 mile South of Tongue Lights |
| North Spit  | Pan Sand Hole | W.N.W. | 5 | Passing S. of Pan Patch  and N. of S. Knoll  |
| S. Knoll  | W. Pan Sand  | N.W. by W. $\frac{1}{2}$ W. . . | 1 $\frac{1}{2}$ | Pass S. of Pan Sand Knoll  |
| W. Pan Sand  | Girdler Light | N. by W. $\frac{1}{2}$ W. . . . | 2 | Passing $\frac{1}{2}$ mile W. of N. Pan Sand  |

(3.) FROM E. BUOY OF MARGATE SAND UP PRINCES CHANNEL.





| | | | | |
|---|---|---------------------------------|-----------------|---|
| E.  Margate Sand | N.E. Spit  | N. $\frac{1}{2}$ W. | 1 $\frac{1}{2}$ | Keeping Shingles  and Tongue Lights in one |
| N.E. Spit  | Tongue Lights | N.W. $\frac{1}{2}$ N. | 2 $\frac{1}{2}$ | |
| $\frac{1}{4}$ -Mile N. of Tongue Lights | Girdler  | W. N. W. $\frac{1}{2}$ W. . . . | 5 $\frac{1}{2}$ | { Passing N. of the 3 black buoys on the North side of the Tongue and Pan Sand |
| $\frac{1}{2}$ S. of Girdler  | Girdler Light | N.W. by W. $\frac{3}{4}$ W. . . | 3 | |












(4.) FROM GIRDLER LIGHT TO THE NORE (UP OAZE DEEPS).

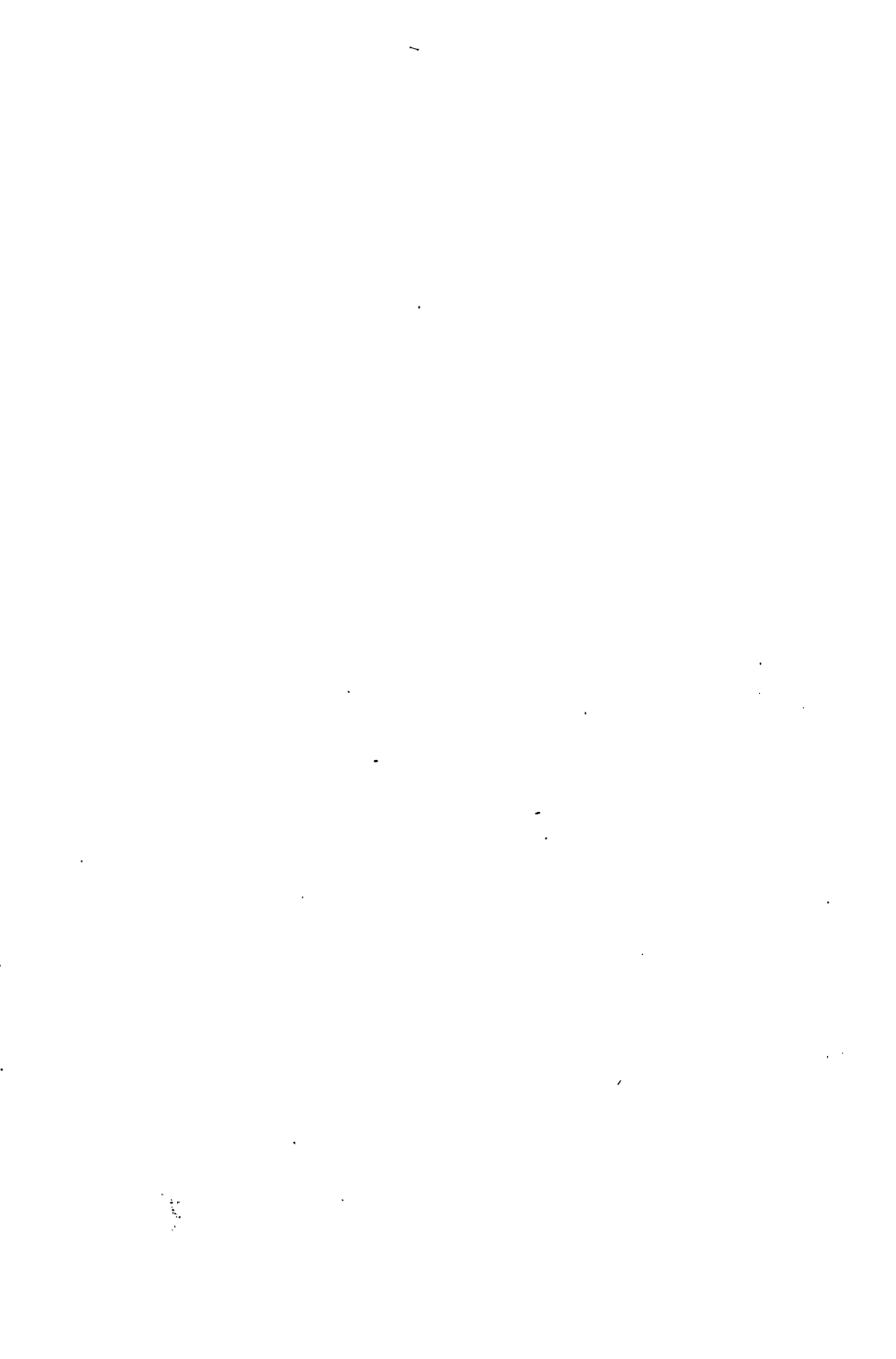
| From. | To. | Course Magnetic. | Sea Miles. | Remarks. |
|---|---|-------------------------------|-----------------|--|
| Girdler Light . . . | Shivering  | N. by W. $\frac{1}{2}$ W. . . | 1 $\frac{1}{4}$ | Keeping Mouse Light 1 point on Port Bow, and Map- lin Light appearing white clears the Shivering Sand |
| Shivering  | Up Oaze Deep to W. Oaze | W. by N. . . | 5 $\frac{1}{4}$ | Passing N. of Red Sand  and S. of Mid. Oaze  |
| W. Oaze  | Nore Light . . . | W.N.W. . . . | 4 $\frac{1}{4}$ | Passing $\frac{1}{2}$ -mile N. of Cant.  |

(5.) FROM GIRDLER LIGHT TO THE NORE (NORTH OF OAZE).










| | | | | |
|--|---|-------------------------------|-----------------|--|
| Girdler Light . . . | Shivering  | N. by W. $\frac{1}{2}$ W. . . | 1 $\frac{1}{4}$ | Keeping Mouse Light bearing N.W. by N. |
| Shivering  | East Oaze  | N. W. $\frac{1}{2}$ N. . . | 2 | |
| $\frac{1}{2}$ -Mile N. of E. Oaze . . .  | Nore Light . . . | W. $\frac{1}{2}$ N. . . . | 8 | |

(6.) SOUTH CHANNEL.








| | | | | |
|--|---|-------------------------------|-----------------|---|
| Long Nose  | Hook  | W. N. W. $\frac{1}{2}$ W. . . | 7 $\frac{1}{4}$ | Passing $\frac{1}{2}$ -mile S. of Hook  |
| Hook  | Up Horse Chan- nel to W. Last  | N.W. by W. . . | 2 $\frac{1}{4}$ | Passing S. of Gore Patch  and the 2 Black Buoys on the Last, and North of the Horse  |
| W. Last  | Overland by $\frac{1}{2}$ -mile S. of W. Spa- niard | N.W. $\frac{1}{2}$ W. . . | 8 | 2 Minster Mills, over Cleve wood and Reculvers clears the S. edge of the Spaniard. 5 feet low water |
| $\frac{1}{2}$ -Mile S. of W. Spaniard  | Nore Light . . . | N.W. $\frac{1}{2}$ N. . . . | 6 | |



(7.) FROM HORSE CHANNEL TO THE NORE (UP 5 FATHOMS CHANNEL).

| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|---|--|-----------------------------|-----------------|--|
| W. Last  | E. Spaniard  | N.N.W. $\frac{1}{2}$ W. . | 5 | Over Flats 9 $\frac{1}{2}$ feet at low water |
| E. Spaniard  | Mid. Spaniard  | W. $\frac{1}{2}$ N. . . . | 2 $\frac{1}{2}$ | Up the 5 fathoms Channel |
| Mid. Spaniard  | Middle  | W. N. W. $\frac{1}{2}$ W. . | 2 $\frac{1}{2}$ | Passing S. of Middle  Beacon |
| Middle  | Nore Light. . . . | N.W. $\frac{1}{2}$ N. . . . | 5 | Passing $\frac{1}{4}$ -mile S. of W. Spile  |

(8.) EAST SWALE.


| | | | | |
|---|--|-------------------------------|-----------------|---|
| E. Spaniard  | Whitstable  | S.W. $\frac{1}{4}$ W. . . . | 4 | Passing 8 $\frac{1}{2}$ feet low water |
| Pan Sand Hole | Ditto | W. $\frac{1}{4}$ S. . . . | 7 | Passing 7 $\frac{1}{2}$ feet low water |
| W. Last  | Ditto | W. by N. . . . | 6 | In a direct course you pass over 5 ft. at low water; the best course is W.N.W. from the West Last, and when Herne Bay bears South, steer west for the Whitstable Street  this course is in 8 feet at low water |
| Whitstable  | Pollard  | W. $\frac{1}{4}$ S. . . . | 2 | { Leading Mark, Harty Church open N. of Buildings on Shellness Point, leaving the 2 Red Buoys of Columbine, and Ham Gat on the North |
| Pollard  | Entrance of E. Swale | W. S. W. $\frac{1}{4}$ W. . . | 1 $\frac{1}{2}$ | |

TIMES OF HIGH WATER.—F.C.






| | H. | Min. |
|-----------------------|----|------|
| Dungeness | 10 | 45 |
| Downs | 11 | 5 |
| Margate | 11 | 40 |
| Pan Sand Hole | 12 | 0 |
| Nore | 12 | 30 |

For an approximate time of High Water on any particular day, add 50 minutes for every day past the Full and Change of the Moon.





(9.) FROM THE NORE LIGHT TO THE FLATS (NORTH OF THE OAZE.)

| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|---------------------|---|-----------------------------------|-----------------|--|
| Nore Light. | $\frac{1}{4}$ -Mile N. of E. Oaze | E. $\frac{1}{4}$ S. | 8 | Mouse Light will then bear N.N.W. $\frac{1}{4}$ W. |
| E. Oaze | Shivering  | S.E. $\frac{1}{4}$ S. | 2 | Keeping Mouse Light N.W. by N. |
| Shivering | Girdler Light | S. by E. $\frac{1}{4}$ E. | 1 $\frac{1}{4}$ | |
| Ditto | Down Black Deep | E. by N. | 5 | Knock John Sand will then bear N. |














(10.) FROM THE NORE LIGHT DOWN THE OAZE DEEPS.

| | | | | |
|---|---|------------------|-----------------|--|
| Nore Light. | $\frac{1}{4}$ -Mile S. of W. Oaze | E.S.E. | 4 $\frac{3}{4}$ | Passing $\frac{1}{4}$ -mile N. of Cant.  |
| West Oaze  | Shivering  | E. by S. | 5 $\frac{1}{4}$ | Passing S. of Mid. Oaze  and N. of Red Sand  |














(11.) FROM GIRDLER LIGHT DOWN PRINCES' CHANNEL.

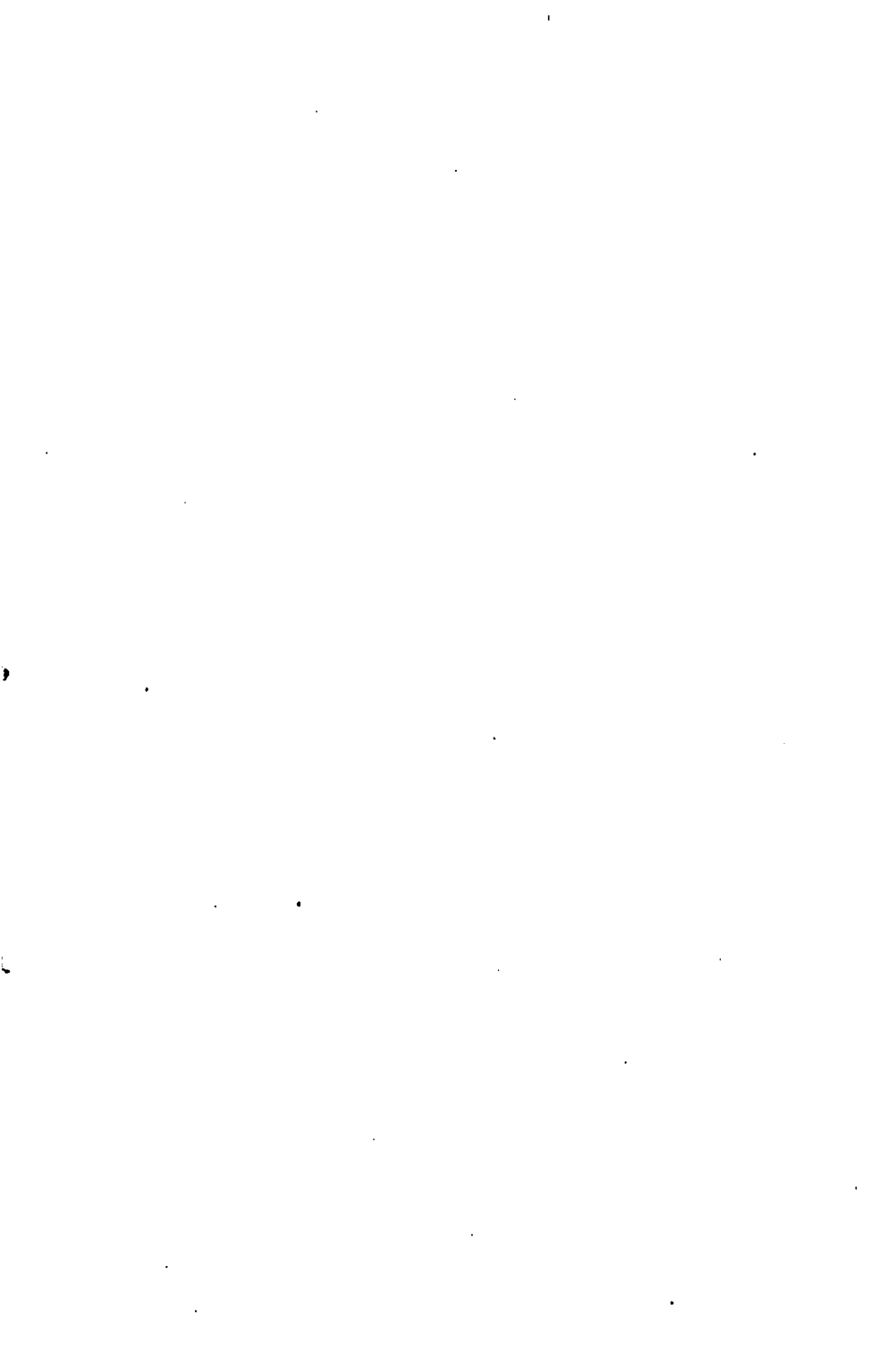
| | | | | |
|---|--|-------------------------------------|-----------------|--|
| Girdler Light | $\frac{1}{4}$ -Mile S. of Girdler  | S.E. by E. $\frac{1}{4}$ E. | 3 | Passing $\frac{1}{4}$ -mile S. of S. Girdler  18 feet |
| Girdler  | $\frac{1}{4}$ -Mile N. of Tongue Lights | E. S. E. $\frac{1}{4}$ E. | 5 $\frac{1}{4}$ | Passing N. of the 3 black buoys on the Tongue |
| Tongue Lights | Clear of E. Spit, Margate Sand | S.E. $\frac{1}{4}$ S. | 3 $\frac{1}{4}$ | Shingles  in one with Tongue Lights leads clear |

(12.) OVER THE FLATS AND DOWN QUEENS CHANNEL.






| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|---|--|---------------------------------|------------|---|
| Girdler Light | W. Pan Sand  | S. by E. $\frac{1}{4}$ E. . . | 3 | { Passing over 12½ feet low water springs Allow for beam tide |
| W. Pan Sand  | Through Pan Sand Hole to S. Knoll  | S.E. by E. $\frac{1}{4}$ E. . . | 1½ | |
| S. Knoll  | Down Queens Channel to N.E. Spit  | E.S.E. $\frac{1}{4}$ E. . . | 7½ | Passing S. of Pan Patch  and Tongue Light, and N. of Wedge  and N. Spit  |
| N.E. Spit  | E. Buoy Margate Sand | S. $\frac{1}{4}$ E. | 1¼ | Shingles  on with Tongue Light clears all |
| E.  Margate Sand | Long Nose  | South | 2½ | |
| Ditto | Elbow  | S. by E. $\frac{1}{4}$ E. . . | 6 | Allow for beam tide |

(13.) FROM THE NORE LIGHT DOWN 5 FATHOMS CHANNEL.

| | | | | |
|---|--|---------------------------------|----|---|
| Nore Light | Middle  | S.E. $\frac{1}{4}$ S. | 5 | Passing to S. of Spile  |
| Middle  | Mid. Spaniard  | E. by S. $\frac{1}{4}$ S. . . | 2¼ | Passing N. of W. Spaniard  and S. of Middle Beacon |
| Mid. Spaniard  | E. Spaniard  | E. $\frac{1}{4}$ S. | 2¼ | |
| E. Spaniard  | Pan Sand Hole | S.E. by E. $\frac{1}{4}$ E. . . | 4 | Over 9½ feet at low water |
| Ditto | W. Last  | S.S.E. $\frac{1}{4}$ E. . . . | 5 | Over Flats 12 feet at low water |
| W. Last  | Through Horse Channel to Hook  | S.E. by E. | 2¼ | |
| Hook  | Long Nose  | E. by S. | 7¼ | Margate Light W. $\frac{1}{4}$ N., and the N. Foreland Light S. by W., clears Long Nose |



(14). FROM QUEENS CHANNEL TO SOUTH FORELAND.

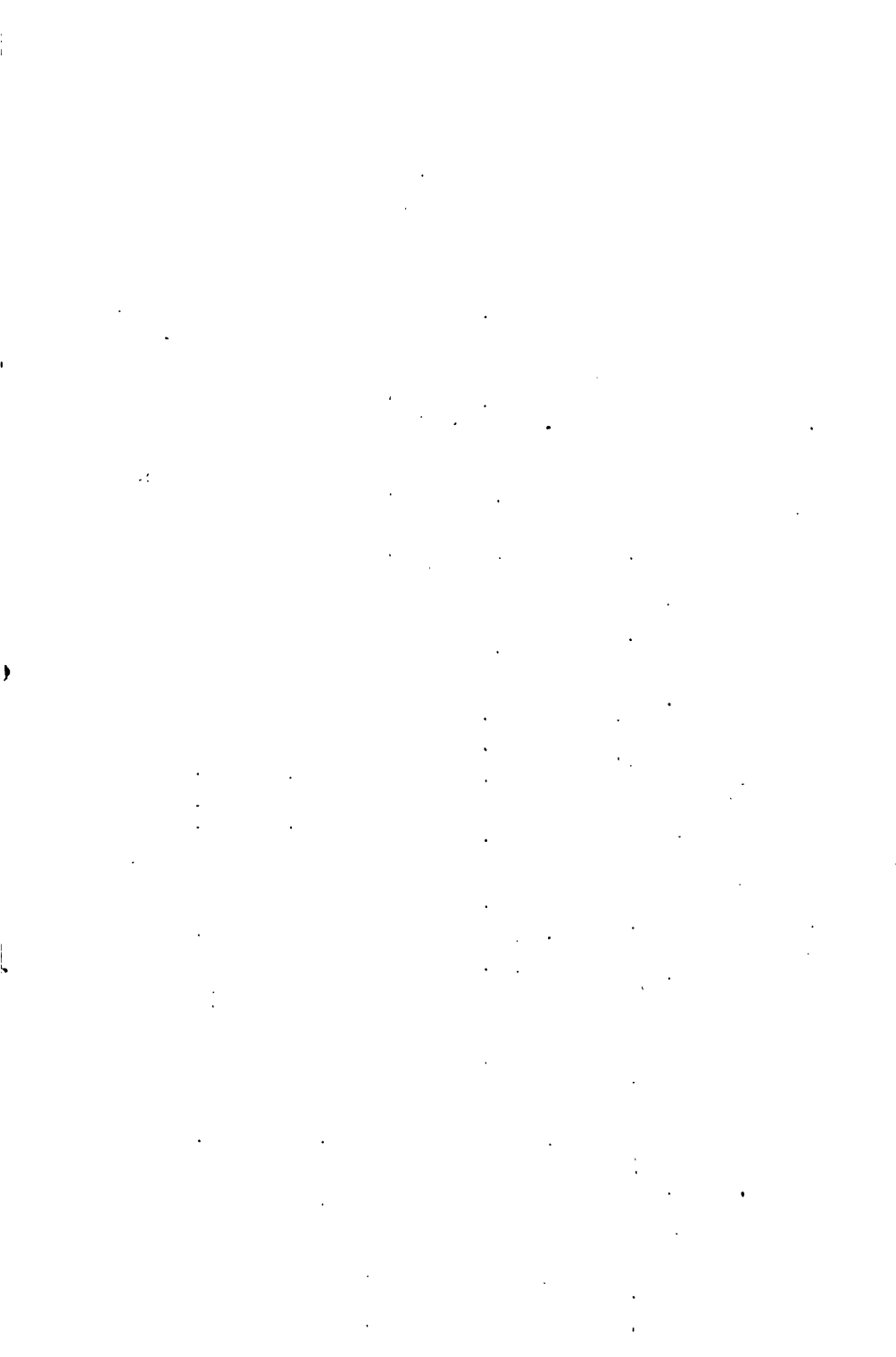
| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|---|---|-------------------------------|-----------------|--|
| E.  Margate Sand | Elbow  | S. by E. $\frac{1}{2}$ E. . | 6 | N. Foreland Light N.W. $\frac{3}{4}$ W. at Elbow Buoy |
| Elbow  | Gull  | S.S.W. . . . | 2 $\frac{1}{2}$ | Ramsgate West Lights W.N.W. at Gull Buoy |
| Gull  | Through Gull Stream to the Downs . . . | S.W. | 7 | Passing $\frac{1}{2}$ -mile W. of Gull Light. Gull Light bearing N.E. $\frac{1}{4}$ N. clears the Bunt Head |
| Downs | S. Foreland. | S.W. $\frac{1}{4}$ S. . . . | 6 | |
| S. Foreland | Dungeness | W. by S. $\frac{1}{4}$ S. . . | 20 | The S. Foreland Lights N.E. $\frac{1}{4}$ N., clears the Varne and Ridge |

SET OF THE STREAM BETWEEN THE NORTH FORELAND AND DUNGENESS.

The North East Stream begins to run at 2 hours before high water at Dover, and continues so until 4 hours after high water.











The South West Stream begins to run at 4 hours after high water at Dover, and continues so until 2 hours before the next high water.

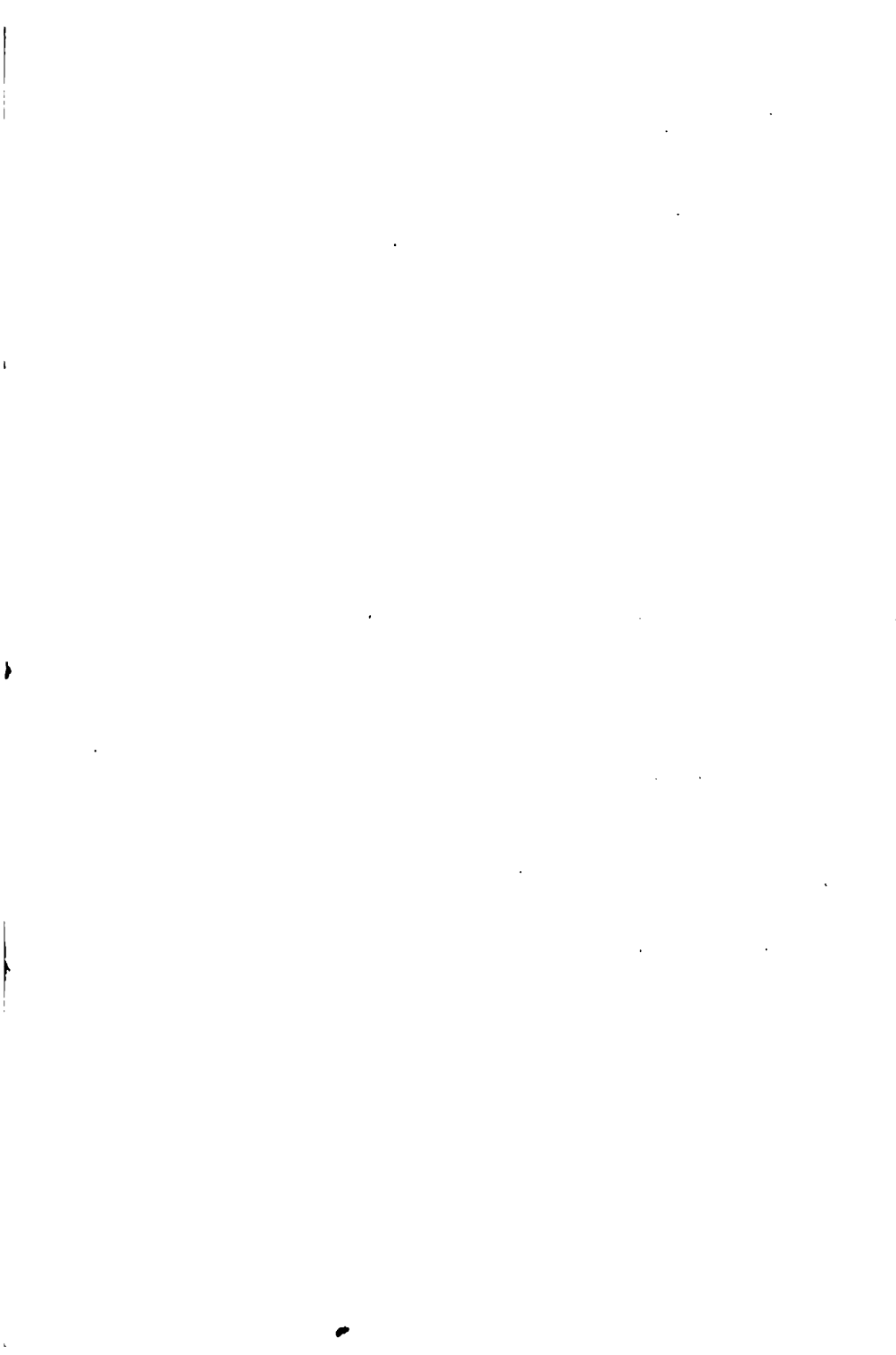
| | | | |
|----------|---|-------------------|-----------------------|
| VELOCITY | { | Springs | 2 $\frac{1}{4}$ knots |
| | | Neaps | 1 $\frac{1}{4}$ knot |











(15.) FROM ORFORDNESS TO THE NORE,

THROUGH THE SHIPWAY AND EAST SWIN TO THE MIDDLE LIGHT.







| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|---|---|-------------------|------------|--|
| 1½ Mile off Orfordness | Entrance of Shipway | S.W. ¼ S. . . | 3½ | Passing 1-mile W. of Shipwash Light |
| 1-Mile W. of Shipwash Light | Entrance of E. Swin 1-mile N. of Sunk Light | S.W. | 16 | Passing 1½-mile W. of Mid. Shipwash  and S.W. Shipwash  and 1½-mile E. of the Rough  and 1-mile E. of the West Rocks  , and between the N.E. Gunfleet  and Sunk Light |
| 1-Mile N. of Sunk Light | Up Swin to N. Hook  of the Middle | W. ¼ S. . . . | 13 | Passing ¾-mile S. of Gunfleet Light and  and S.W. Gunfleet  and ¾-mile N. of Heaps  |
| N. Hook  | Middle Light . . . | W.S.W. . . . | 2½ | N.B.—Get the Light to bear W.S.W., then steer just to the westward of it, along the N. edge of the Middle Sand |








(16.) FROM ORFORDNESS TO THE CORK LIGHT AND THROUGH THE WALLET.

| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|--|---|---------------------------------|-----------------|--|
| $\frac{1}{2}$ -Mile off Orfordness | $\frac{1}{2}$ -Mile N. of N.E. Whiting  | W. by S. . . . | 1 $\frac{1}{2}$ | |
| N.E. Whiting  | Up Hollesley Bay | S.W. by W. $\frac{3}{4}$ W. | 3 | Keeping Orfordness Low Light just open N. or left of the High Light, passing $\frac{1}{4}$ -mile N. of Hook and S.W. Whiting  |
| S.W. Whiting  | Cutler  | S.W. $\frac{3}{4}$ W. . . . | 4 $\frac{1}{2}$ | By night haul out from Hollesley Bay, and get Orfordness Low Light open S. or right of the High Light steering S.W. |
| Cutler  | Cork Light (revolving) | W. by S. $\frac{1}{4}$ S. . . . | 2 $\frac{1}{2}$ | By night have Cork Light W. by S. |
| Cork Light | Inner Channel to Medusa Channel | S.W. by W. $\frac{1}{4}$ W. | 3 $\frac{1}{2}$ | Keeping the Naze Cliffs and distant Cliffs just open and passing to the N.E. of Stone Banks  |
| Stone Banks  | Entrance of Wallet clear of Naze Ledge | S.S.W. | 1 $\frac{1}{2}$ | Off Naze Ledge the Tower bears N.W. |

(17.) UP THE WALLET TO THE MIDDLE LIGHT.





| | | | | |
|--|---|-----------------|-----------------|---|
| Naze Ledge | Up Wallet to Spitway  | W.S.W. | 11 | Naze Tower closing over the Cliffs W. of Walton, leads in a fair track to the Spitway |
| Wallet Spitway  | Swin Spitway  | South | 1 | Through the Spitway 8 feet at low water springs |
| Swin Spitway  | Mid. Light (revolving) | S.W. | 3 $\frac{1}{2}$ | Passing 2 cables E. of Whitaker Spit  and $\frac{1}{4}$ -mile E. of Whitaker  |

(18.) FROM THE MIDDLE LIGHT TO THE NORE.










| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|---|---|-----------------------------------|-----------------|---|
| Mid. Light V. | $\frac{1}{4}$ -Mile E. of Maplin Light (red) | S.W. $\frac{1}{2}$ S. | 4 $\frac{1}{2}$ | When working about 1-mile off the Maplin Light, tack, when it bears S.W. by W. $\frac{1}{2}$ W.;—but use the lead |
| Maplin Light | Up W. Swin to $\frac{1}{4}$ -m. S. of Blacktail  | W. by S. $\frac{1}{2}$ S. | 5 $\frac{1}{2}$ | Passing S. of Maplin  and N. of Barrows  and $\frac{1}{4}$ -mile N. of Mouse Light |
| $\frac{1}{4}$ -Mile S. of Blacktail  | Nore Light. | West | 6 | |
| Ditto | $\frac{1}{4}$ -Mile N. of Nore Light | W. $\frac{1}{2}$ N. | 6 | Passing $\frac{1}{4}$ -mile S. of 3 Black Buoys on the edge of the Knock, and 1-mile N. of W. Oaze  |









(19.) FROM THE NORE DOWN THE SWIN TO THE MIDDLE LIGHT.

| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|---|--|-----------------------------|-----------------|---|
| $\frac{1}{2}$ -Mile N. of Nore Light | $\frac{1}{2}$ -Mile S. of Blacktail  | E. $\frac{1}{2}$ S. . . . | 6 | Passing $\frac{1}{4}$ -mile South of 3 Black Buoys on the Knock, and 1-mile N. of West Oaze  |
| $\frac{1}{4}$ -Mile S. of Blacktail  | Maplin Light . . . | E. by N. $\frac{1}{2}$ N. . | 5 $\frac{1}{2}$ | Passing $\frac{1}{4}$ -mile N. of Mouse Light and Barrows and South of Maplin  |
| $\frac{1}{4}$ -Mile E. of Maplin Light | Middle Light . . . | N.E. $\frac{1}{2}$ N. . . | 4 $\frac{1}{2}$ | N.B.—The flood tide sets in shore |

(20). FROM THE MIDDLE LIGHT TO ORFORDNESS (DOWN SWIN).





| | | | | |
|---|---|---------------------------|-----------------|---|
| Middle Light V. . . | N. Hook  | E.N.E. . . . | 2 $\frac{1}{2}$ | |
| N. Hook  | Down Swin to 1-mile N. of Sunk Light . | E. $\frac{1}{2}$ N. . . . | 13 | Passing N. of N.E. Middle  and Heaps  and S. of S.W. Gunfleet  and Gunfleet Light |
| 1-Mile N. of Sunk Light | Through the Shipway to 2-mile E. of Orfordness | N.E. | 18 | Passing E. of N.E. Gunfleet  and West Rocks  and Rough  and W. of S.W. Shipwash Mid. Shipwash  and Shipwash Light |

(21.) FROM THE MIDDLE LIGHT, THROUGH THE SPITWAY AND WALLET.

| From. | To. | Courses Magnetic. | Sea Miles. | Remarks. |
|--|---|-------------------|------------|--|
| Middle Light . . . | Swin Spitway  | N.E. . . . | 3½ | Passing 2 cables E. of Whitaker Spit  |
| Swin Spitway  | Wallet Spitway  | North | 1 | Through Spitway 8 feet, low water springs |
| Wallet Spitway  | Naze Ledge . . . | E.N.E. . . . | 11 | Naze Tower bearing N.W. |
| Naze Ledge . . . | Stone Banks  | N.N.E. . . . | 1½ | |
| ¼-Mile N.N.E. of Stone Banks . . . | Cork Light . . . | | | Inner Channel. Naze Cliffs open of distant Cliffs, lead to the Cork Light |

(22.) CORK LIGHT TO ORFORDNESS.

THROUGH HOLLESLEY BAY.

| | | | | |
|--|---|-------------------|----|---|
| Cork Light . . . | Cutler  | E. by N. ½ N. . . | 2½ | |
| Cutler  | S.W. Whiting  | N.E. ¼ E. . . . | 4½ | |
| S.W. Whiting  | Through Hollesley Bay | N.E. by E. ¾ E. . | 3 | Keeping Orfordness Low Light open left of the High Light |

TIMES OF HIGH WATER.—FULL AND CHANGE.

| | H. | M. | Springs Rise. |
|--------------------|----|----|---------------|
| Orfordness . . . | 11 | 15 | 8 3 |
| East Swin . . . | 11 | 40 | 13 6 |
| Middle Light . . . | 12 | 0 | 15 0 |







